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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,064	04/01/2004	Bruno Kristiaan Bernard De Man	127068-2	8882

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
PATENT DOCKET RM. BLDG. K1-4A59
NISKAYUNA, NY 12309

EXAMINER

SONG, HOON K

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,064

Applicant(s)

DE MAN ET AL.

Examiner

Hoon Song

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-27, 30-43, 45, 46, 49 and 59-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3, 18-27, 30, 45, 46, 49 and 60-64 is/are allowed.
- 6) ☒ Claim(s) 4, 5 and 31 is/are rejected.
- 7) ☒ Claim(s) 6-17, 32-43 and 59 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 19 and 61 are objected to because of the following informalities:

In claim 19 at line 7 and 9, "the one or more" lacks proper antecedent basis.

In claim 61 at line 3-4, "the at least one" lacks proper antecedent basis.

Informalities exist throughout the claims. Appropriate correction for all claims is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-5 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Burke et al. (US 5438605).

Regarding claims 4 and 31, Burke teaches a volumetric stationary CT system comprising:

at least one stationary detector extending generally around at least a portion of an imaging volume (column 1 line 48);

at least one stationary distributed X-ray source (12) placed proximal to the at least one stationary detector (figure 1); and

a source controller for triggering one or more emitters in the at least one stationary distributed x-ray source for acquiring volumetric data by the at least one stationary detector (column 5 line 28),

wherein the at least one stationary detector and the at least one stationary distributed X-ray source are configured to cooperate to contribute towards mathematical completeness (360° scanning) of acquired volumetric data for image reconstruction, and

wherein the at least one stationary distributed X-ray source includes at least two full ring sources (10, 10' and 10", figure 7).

Regarding claim 5, Burke teaches the at least two full ring sources include a circle configuration (figure 3, column 9 line 25).

Allowable Subject Matter

Claims 3, 18-27, 30, 63, 45-46, 49, 60-62 and 64 allowed over prior art.

Claims 6-17, 8-17, 32-43 and 59 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 3 and 30, the prior art fails to teach at least one stationary detector comprising a plurality of detector elements of more than one sizes as claimed in independent claims 3 and 30.

Regarding claims 6-7, the prior art fails to teach the at least one stationary detector includes a pair of ring detectors and wherein at least one ring source of the one

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or more full ring sources is positioned between the pair of ring detectors as claimed in dependent claim 6.

Regarding claims 8-15 the prior art fails to teach the at least one stationary detector includes one or more ring detectors placed between two or more ring sources as claimed in dependent claim 8.

Regarding claim 16, the prior art fails to teach one or more partial ring sources and wherein the at least one stationary detector includes one or more ring detectors positioned between two or more ring sources and includes the one or more partial ring sources as claimed in dependent claim 16.

Regarding claim 17, the prior art fails to teach the at least one stationary detector includes one or more ring detectors positioned between two or more ring sources, wherein the one or more ring detectors and the two or more ring sources comprise different diameters for permitting a telescoping movement of the one or more ring detectors with the two or more ring sources as claimed in dependent claim 17.

Regarding claims 19-25, the prior art fails to teach a volumetric stationary CT system having at least one stationary ring detector extending generally around a portion of an imaging volume and more than one partial ring sources flanking the stationary ring detector on alternating sides of the stationary ring detector and configured to emit radiation toward the ring detector as claimed in independent claim 19.

Regarding claims 26-27, the prior art fails to teach the at least one stationary detector includes a helical detector, and wherein the at least one stationary distributed

X-ray source includes a helical source placed adjacent to the helical detector as claimed in independent claim 26.

Regarding claims 32 and 33, the prior art fails to teach the at least one stationary detector includes a pair of ring detectors and wherein at least one ring source of the one or more full ring sources is positioned between the pair of ring detectors.

Regarding claims 34-37, the prior art fails to teach the at least one stationary detector includes one or more ring detectors placed between two or more ring sources as claimed in dependent claim 34.

Regarding claim 38, the prior art fails to teach one or more partial ring sources and wherein the at least one stationary detector includes one or more ring detectors positioned between two or more ring sources and includes one or more partial ring sources as claimed in dependent claim 38.

Regarding claim 39, the prior art fails to teach the at least one stationary detector includes one or more ring detectors positioned between two or more ring sources, wherein the one or more ring detectors and the two or more ring sources comprise different diameters for permitting a telescoping movement of the one or more ring detectors with the two or more ring sources as claimed in claim 39

Regarding claim 40, the prior art fails to teach one or more line sources extending at least along a Z-direction to increase completeness in acquired data for image reconstruction as claimed in dependent claim 40.

Regarding claim 41, the prior art fails to teach the at least one stationary detector includes a ring detector and wherein the at least one stationary distributed X-ray

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source includes one or more partial ring sources flanking the ring detector on alternating sides of the ring detector and configured to emit radiation toward the ring detector as claimed in dependent claim 41.

Regarding claim 42, the prior art fails to teach the at least one stationary distributed X-ray source includes one or more partial ring sources and wherein the at least one stationary detector includes one or more notched detectors as claimed in dependent claim 42.

Regarding claim 43, the prior art fails to teach the at least one stationary detector includes a helical detector, and wherein the at least one stationary distributed X-ray source includes a helical source placed adjacent to the helical detector as claimed in dependent claim 43.

Regarding claim 45, the prior art fails to teach a method of measuring additional data by employing line sources as claimed in independent claim 45.

Regarding claims 46 and 49, the prior art fails to teach providing one or more ring detectors placed between two or more ring sources as claimed in independent claim 46.

Regarding claim 60, the prior art fails to teach a volumetric stationary CT system having at least one stationary detector with varying resolutions and forming the at least one stationary detector extending generally around at least a portion of an imaging volume and at least one stationary distributed x-ray source placed proximal to the at least one stationary detector for completeness of acquiring volumetric data for image reconstruction as claimed in independent claim 60.

Regarding claims 61-62, the prior art fails to teach a volumetric stationary CT system having at least two stationary detectors extending generally around at least portion of an imaging volume and at least one stationary distributed x-ray source placed proximal to the at least two stationary detector for completeness of acquiring volumetric data for image reconstruction as claimed in independent claim 61.

Response to Arguments

Applicant's arguments filed 4/10/2006 have been fully considered but they are not persuasive.

The applicant argues that Burke fails to teach at least one stationary distributed x-ray source including at least two full ring sources. The examiner disagrees.

Burke teaches that multiple anodes 10, 10', 10" are mounted in star/step fashion, each adjacent a corresponding windows 10, 20', 20" and a cathode cup 32, 32', 32" are mounted to the annular ring 30 (figure 7, column 9 line 21-25). Accordingly, Burke clearly teach a at least one stationary source including at least two full ring sources (10, 10' and 10") and the applicant's argument is not persuasive.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hoon Song whose telephone number is (571) 272-2494. The examiner can normally be reached on 9:30 AM - 7 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Glick can be reached on (571) 272 - 2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HKS

6/20/06
HKS


EDWARD J. GLICK
SUPERVISORY PATENT EXAMINER